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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,038	12/01/2000	Hung Chen	AMAT/3778/CMP/CMP/RKK	2584
32588	7590	05/17/2006	EXAMINER	
APPLIED MATERIALS, INC. 2881 SCOTT BLVD. M/S 2061 SANTA CLARA, CA 95050			GRANT, ALVIN J	
			ART UNIT	PAPER NUMBER
			3723	
DATE MAILED: 05/17/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/728,038

**Applicant(s)**

CHEN ET AL.

**Examiner**

Alvin J. Grant

**Art Unit**

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

**Claims 1, 4, 5, 6, 8, 9, 11, 14, 15, 16, 18, 19, 20, 26, 27, and 32-37** are rejected under 35

U.S.C. 102(a) as being anticipated by Rubino et al. '215.

Rubino et al. discloses a semiconductor polishing device with one surface defining at least one nonintersecting fluid retaining groove, at least a portion of which is oriented at an angle relative to the radial line originating at its center, is adapted to flow a fluid inwardly toward a center portion of its surface, and is adapted to be used with a rotary polisher (see figure: 5B).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino et al.

Rubino et al. does not disclose a groove having varying slope. However it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the pad of Rubino et al. to change the depth of the grooves so as to increase or decrease the rate of flow, hence the quantity of the slurry.

**Claim 17**, is rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino et al. in view of Meikle et al. '455.

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Rubino et al. does not specifically disclose that the polishing pad is constructed of polyurethane.

However, Meikle et al. discloses a polishing pad made of polyurethane because of its durability. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the CMP pad of Rubino et al. out of polyurethane, as taught by Meikle et al. because of its durability.

**Claims 2, 12, 13, 23, 24, 28, 30 and 31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino et al. in view of Beardsley et al. '515 B1.

Rubino et al. is described above. Rubino et al. does not disclose a platen containing non-intersecting fluid retaining grooves. Beardsley et al. discloses a CMP apparatus comprising a rotating platen that contains recesses that distribute the slurry, which provides for a uniformly planarized workpiece and also creates a system which also removes slurry for disposal or reuse. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the platen of the Rubino et al. apparatus to include grooves so as to distribute the slurry along prescribed paths assuring more even distribution of the slurry and creating a system for removing the slurry for reuse or disposal as taught by Beardsley et al.

**Claims 7, 10, 21, 22, 25 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Meikle et al. in view of Beardsley et al. and further in view of Okamura et al. '830 B1.

Meikle et al. as modified is described above. Meikle et al. does not disclose a polishing pad with linear grooves. Okamura et al discloses an apparatus for chemical mechanical polishing using polishing pads containing linear grooves to provide for a more even distribution of pressure on the workpiece thus producing a better quality finish. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the platen of Elliott et al. to include linear grooves so as to allow for distribution of the slurry and the pressure transmitted to the workpiece as taught Okamura et al.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin J. Grant whose telephone number is (571) 272-4484. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alvin J Grant  
Patent Examiner  
Art Unit 3723

ajg



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